AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 10 as follows:

In order to achieve higher transmission speed and larger capacity, a study has been made of putting into ~~a practical the~~ practice optical switching equipment called an optical add drop multiplexer (referred to as an OADM) or an optical cross connect (referred to as an OXC), which equipment is arranged to not only transmit the wavelength-multiplexed optical signal but also switch the optical signal of a transmission route or path unit, and further of configuring an optical transport network provided with the OADM or the OXC. Herein, the transmission route or the path to be switched is often referred simply to as a route.

Please amend the paragraph beginning at page 2, line 17 as follows:

However, the existing optical switch brings about a loss of an optical signal in the range of several dB to several tens dB depending on the arrangement of the switch or the set route state. Further, though the optical transmitter and the optical receiver are commonly required to be placed before and after the optical switch, often, it is further requested to add the optical amplifier for adjusting the optical signal level, because the optical transmitter and receiver ~~has~~ have a limitation in optical signal output power, receiver sensitivity and dynamic range. Moreover, the redundant configuration adopted for making the network highly reliable needs to have some components such as an optical distributor like an optical coupler and an optical selector like a 2 X 1 optical switch.

Please amend the paragraph beginning at page 5, line 5 as follows:

More particularly, it is an object of the present invention to provide the optical switching equipment that is configured to reduce the loss of the optical signal inside the optical transport

network by suppressing the configuration redundancy inside of the equipment and thereby reducing the optical components in number and then to configure the optical transport network with a combination of these optical switching equipments. Further, it is also an object of the present invention to provide ~~the using~~ methods of setting the signal routes of the optical switching equipments and the optical transport network.

Please amend the paragraph beginning at page 6, line 11 as follows:

According to another aspect of the invention, the optical transport network having a combination of the optical switching equipments is configured to locate a plurality of optical switching equipments so that the optical signals duplexed in the equipment pass through (transmit) ~~defferent~~ different optical transmission routes and optical switching equipments and to connect these optical switching equipments through the optical transmission route. The optical signal that merely passes through (transmits) each equipment is processed in the single configuration without protection of the equipment for the purpose of reducing the optical components in number, thereby suppressing the loss of the optical signal and making the long haul transmission possible, while the overall optical transport network is configured to transmit (transit) the duplexed optical signal for keeping the optical transport network reliable.

Please amend the paragraph beginning at page 7, line 1 as follows:

Then, the ~~using~~ methods of setting the routes of the optical switching equipments and the optical transport network are arranged so that (1) the optical switching equipment that adds the optical signal into the optical transport network operates to output the duplexed optical signals to the corresponding optical transmission routes and optical switching equipments, respectively, (2) the

optical switching equipment in which the optical signal passes through (is relayed) sets the route so that the duplexed signals are allowed to pass through the respective optical transmission routes and optical switching equipments until the signals reach the optical switching equipment that drops one of the duplexed optical signals, and (3) the optical switching equipment that drops the optical signal from the optical transport network operates to collect the duplexed optical signals received from the corresponding optical transmission routes and optical switching equipments and to drop one of the signals.

Please amend the paragraph beginning at page 2, line 20 as follows:

In addition, the foregoing description has been expanded as taking a duplex case as an example of the redundant configuration. It goes without saying that the description holds true to the triplex or more as the redundant configuration.

Please amend the paragraph beginning at page 8, line 19 as follows:

Hereafter, the arrangement of the optical switching equipment, the configuration of the optical transport network provided with the equipments, and the ~~using~~ methods of using these equipments and the network according to the embodiments of the invention will be described in detail with reference to the appended drawings.

Please amend the paragraph beginning at page 10, line 4 as follows:

This embodiment illustrates the configuration in which the optical transport network 10 provides the NMS 400 so that the NMS 400 may set the communication route in each optical switching equipment 100 and optical fibre 200. ~~In place~~ Instead, any one of the optical switching

equipments 100 may be a master system that operates to perform the settings of each equipment. ~~Or~~ As another alternative, the equipments 100 may define the communication routes by themselves through the use of a communication protocol such as GMPLS (Generalized Multiprotocol Label Switching) being studied in the Organization for Standardization like the IEFT (Internet Engineering Task Force).

Please amend the paragraph beginning at page 11, line 29 as follows:

(3) The OADM 100-10, which has a role of dropping the optical signal from the optical transport network 10 to the terminal B (T101), receives the two versions (duplexed) of the optical signal from the terminal A (T011) from the corresponding routes R0 and R1. Hence, the OADM 100-10 operates to control the components such as the optical switch inside the equipment and set two routes so as to select one of the duplexed optical signals and then output it to the terminal B (T101). The OADM 100-10 operates to execute the termination process such as the error detection of each optical signal and the compensation of optical power level in the duplexed portion inside the equipment, select one of the optical signals, and then output it to the terminal B (T101) through the optical fibre 300-6.

Please amend the paragraph beginning at page 12, line 6 as follows:

The optical switching equipment and the optical transport network configured to use it according to the invention are configured and operated as described above. Hence, the redundant portion of the optical components for keeping the reliability of the optical switching equipment is required to be defined as only a portion of adding and dropping the optical signal into the optical transport network, while the other portion may take a single configuration without protection, which

results in reducing the optical components in number and thereby realizing the economical equipment. Moreover, it results in reducing the optical signal loss, thereby making the long haul transmission possible. Further, it also results in reducing the number of adds of the optical components like an optical amplifier on the optical signal route, thereby implementing the optical transport network with an economical configuration. The optical signal to be communicated between the terminals is made redundant in the optical transport network when it is transmitted. Hence, ~~the almost portion~~ most of the optical switching equipment may take the single configuration without protection without having to lower the reliability.

Please amend the paragraph beginning at page 13, line 4 as follows:

The optical switching equipment 100 realizes the OADM. The equipment 100 accommodates N optical fibres (200-I1 to IN, 200-O1 to ON) as inputs and outputs and ~~transmit~~ transmits and ~~receive~~ receives a plurality of wavelength-multiplexed optical signals (for example, n wavelengths) through the corresponding optical fibres 200. Further, the equipment 100 accommodates M optical fibres (300-I1 to IM, 300-O1 to OM) as inputs and outputs, and ~~transmit~~ transmits and ~~receive~~ receives the optical signals to and from the terminal T connected with the equipment itself. The optical switching equipment 100 provides an optical switch SW 140 and operates to set a route of the optical signal and output the optical signal from the terminal T to the optical fibres (200-O1 to ON) for adding it to the optical transport network 10, output the optical signal from the optical fibres (200-I1 to IN) to the terminal T for dropping the optical signal from the optical transport network 10, or pass(transmit) the optical signals from the optical fibres (200-I1 to IN) through any one of the optical fibres (200-O1 to ON). The broken line indicated inside the

switch 140 shown in Fig. 2 indicates a setting example (Pass, Add, Drop) of a route of the optical signal.